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EXAMINER
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ART UNIT	PAPER NUMBER
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

PTOL-90A (Rev. 04/07)

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE _3_ MONTH(S) OR THIRTY (30) DAYS,
WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed
  after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any
  earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on _24 July 2008_.
2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.
3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is
    closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) _1-21_ is/are pending in the application.
    4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5)☐ Claim(s) _____ is/are allowed.
6)☒ Claim(s) _1-21_ is/are rejected.
7)☐ Claim(s) _____ is/are objected to.
8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.
10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.
    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
    a)☐ All b)☐ Some * c)☐ None of:
    1.☐ Certified copies of the priority documents have been received.
    2.☐ Certified copies of the priority documents have been received in Application No. _____.
    3.☐ Copies of the certified copies of the priority documents have been received in this National Stage
        application from the International Bureau (PCT Rule 17.2(a)).
    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)
2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3)☒ Information Disclosure Statement(s) (PTO/SB/08)
   Paper No(s)/Mail Date _11/1/02, 6/14/02, 4/15/08_.
4)☐ Interview Summary (PTO-413)
   Paper No(s)/Mail Date. _____
5)☐ Notice of Informal Patent Application
6)☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1.   A request for continued examination under 37 CFR 1.114, including the fee set forth in

37 CFR 1.17(e), was filed in this application after final rejection. Since this application is

eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e)

has been timely paid, the finality of the previous Office action has been withdrawn pursuant to

37 CFR 1.114. Applicant's submission filed on July 24, 2008 has been entered.

2.   Claims 1-21 remain pending. Claims 1, 8 and 12 are independent claims.

Response to Amendments

3.   Per Applicant's request, Claims 1-2, 8 and 12 have been amended.

Response to Arguments

4.   Applicants' arguments have been fully considered but they are not moot in view of the

new grounds of rejection.

Claim Rejections – 35 USC § 103

5.   The following is a quotation of the 35 U.S.C. § 103(a) which form the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth
> in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are
> such that the subject matter as a whole would have been obvious at the time the invention was made to a person
> having ordinary skill in the art to which said subject matter pertains. Patentability shall not negatived by the manner
> in which the invention was made.

6.   Claims 1-3 and 5-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S.

Patent No. 6,738,978 to Hendricks ("Hendricks978") in view of U.S. Patent No. 6,088,722 to

Herz et al. ("Herz'722") and further in view of U.S. Patent No. 7,003,792 to Yuen.

Claim 1

Hendricks978 discloses at least

a server-side system for evaluating television viewing data and for categorizing the data into category groups (see at least Abstract, lines 15-18; 7:7-13).

Hendricks does not specifically disclose the remaining features of the claim.

However, in an analogous art, Herz discloses:

a clustering engine included in the server-side system for receiving the television viewing data, processing the television viewing data, and generating user profiles targeting the category groups (see at least 42:7-11; 39:34-57).

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to use Herz in Hendricks978 for the purpose of determining a customer profile.

The combination Hendricks978-Herz further discloses:

a contextual behavioral profiling agent for deriving profiling information related to a television user's viewing behavior with content and usage-related preferences (Herz; see at least 41:55 - 43:15; 7:4 – 7:13)*; and*

a behavioral model database for storing in the client-side system the profiling information derived by the profiling agent (Herz; see at least 41:55 - 43:15; 7:4 – 7:13).

The combination Hendricks978-Herz does not specifically disclose the remaining features of the claim.

However, in an analogous art, Yuen discloses:

a client-side system coupled to the server-side system and adapted to classify a user into at least one of the category groups based on category prototypes received from the clustering engine (see at least 15:37 – 16:26).

Although Yuen does not specifically disclose specifically television viewing data, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to modify Yuen to collect, combine, integrate and infer user's profile based on television programs viewed by the user rather than based on the history of websites visited by the user and then use the modified teachings in the combination Hendricks-Herz because this would help shift some of the burden of categorizing the user according to the category group from the server side to the user side, thereby improving the speed of delivery of the targeted content to the user.

Claims 2-3 and 5-7

The rejection of base claim is incorporated. For features recited in Claims 2-3 and 5-7, see rejections and examiner's response to Applicant's arguments in previous Office actions.

7.   Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,738,978 to Hendricks ("Hendricks978") in view of U.S. Patent No. 6,088,722 to Herz et al. ("Herz'722") further in view of U.S. Patent No. 7,003,792 to Yuen, as applied to base claim 1 and intervening claim 2, and further in view of U.S. Patent Application Publication No. 2005/0193410 by Eldering.

Claim 4

The rejections of base claim 1 and intervening claim 2 are incorporated. For features recited in claim 4, see rejection and examiner's response to Applicant's arguments in the previous Office actions.

8.   Claims 8-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5,798,785 to Hendricks ("Hendricks785") in view of U.S. Patent No. 6,177,931 to Alexander.

Claim 8

Hendricks785 discloses at least *in an interactive display system* (see at least FIG. 1) *having a head-end side for distributing program content* (see at least FIG. 1, element 208) *that has been pruned for a category, and a client side* (see at least FIG. 1, element 202) *receiving the program content and selectively displaying the program content in accordance with the selection of a user*(see at least 4:45-48), *a preference engine for determining a preferred program content for the user* (see at least 29:26-28 teaching microprocessor element 602), *comprising:*

> *a user monitoring device* (see at least 29:26-28 teaching microprocessor element
> 602) *receiving the pruned program content at the client side for recording contextual
> transition behaviors profiling the user to continually build a user profile of preferences
> and contextual transition behaviors associated with the user* (see at least 29:33-43

teaching recording contextual behaviors and storing them in memory and learning a
subscriber's favorite channels).

Hendricks785 does not specifically disclose:

> *a program distributing service at the head-end side for providing to the user the*
> *program content in accordance with the user profile.*

However, in an analogous art, Alexander teaches a device (5:20-55; a device which
would make up a cable box) for providing to the one or more users the program content in
accordance with the user's demographic information and with the contextual transition behavior
profile (see at least 30:59-67 teaching automatically tuning to a channel because of the user
profile and 28:10-53 teaching the EPG recording demographic and contextual transition behavior
profile information).

It would have been obvious to a person having ordinary skill in the art at the time the
invention was made to combine the user monitoring system of Hendricks785 with the user
preference system of Alexander for the purpose of customizing the EPG to provide custom
advertising to the viewer based on the user profile (Alexander; 2:17-20).

The combination Hendricks785-Alexander does not specifically disclose the remaining
feature of the claim.

However, in an analogous art, Yuen discloses:

> *wherein a user is classified at the client-side into at least one category group*
> *based on category prototypes received from the head-end side* (see at least 15:37 –
> 16:26).

Although Yuen does not specifically disclose specifically television viewing data, it
would have been obvious to a person having ordinary skill in the art at the time the invention was
made to modify Yuen to collect, combine, integrate and infer user's profile based on television
programs viewed by the user rather than based on the history of websites visited by the user and
then use the modified teachings in the combination Hendricks-Herz because this would help shift
some of the burden of categorizing the user according to the category group from the server side
to the user side, thereby improving the speed of delivery of the targeted content to the user.

Claims 9-10

The rejection of the base claim is incorporated. For features recited in Claims 9-10, see rejections and examiner's response to Applicant's arguments in previous Office actions.

9.   Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5,798,785 to Hendricks ("Hendricks785") in view of U.S. Patent No. 6,177,931 to Alexander and further in view of U.S. Patent No. 5,801,747 to Bedard.

Claim 11

See rejections and examiner's response to Applicant's arguments in previous Office actions.

10.   Claims 12, 13, 15-18 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,738,978 to Hendricks ("Hendricks978") in view of U.S. Patent No. 7,003,792 to Yuen.

Claim 12

Hendricks978 discloses at least *in a program content delivery system* (see at least FIG. 5) *having a head-end side* (see at least FIG. 1, element 208) *and a client side* (see at least FIG. 1, element 220)*, a system for targeting program delivery* (see at least 35:64-65)*, comprising:*

> *a central data system at the head-end side which receives viewing information* (see at least 36:17-23 and FIG. 1, element 214 teaching a network controller receiving and storing information which is located at the head end) *selected from the group consisting of watch data* (see at least 36:29-35)*, watch start time data, watch duration data, and watch channel data, demographic information describing a program user* (see at least 36:17-23)*, and electronic program guide information with metadata describing a program content;*

> *a demographic cluster knowledge base acquirer receiving from the client side behavioral data of the user* (see at least 36:14-23 teaching receiving demographic data to generate a matrix, the collected data from groups of subscribers being considered as

clusters) , *the knowledge base acquirer outputting a knowledge base in the form of a*
transition matrix with weight sets(see at least 78:13-17 teaching outputting a matrix and
71:3-10 teaching transmitting weighted information to the set top terminals and 37:1-5)*,*
the transition matrix predicting a demographic group of the user (see at least 37:1-5
teaching selecting a group for a user and 36:18-24 teaching the matrices being developed
using demographic information so that the selecting of a user by the matrix is using
demographic data to select a group for the user)*; and*

a program content generating module (see at least FIG. 17, element 428
generating program content) *disposed at the head-end side and providing to the client*
side streams of program content based on the predicted demographic group of the user
(see at least 37:1-5 teaching selecting a group for a user and 36:18-24 teaching the
matrices being developing using demographic data to select a group for the user and
38:56-59 teaching three methods for streaming/delivering advertisements to the user).
Hendricks978 does not specifically disclose the remaining feature of the claim.
However, in an analogous art, Yuen discloses:

wherein a user is classified into at least one category group based on category
prototypes received from the head-end side (see at least 15:37 – 16:26).

Although Yuen does not specifically disclose specifically television viewing data, it
would have been obvious to a person having ordinary skill in the art at the time the invention was
made to modify Yuen to collect, combine, integrate and infer user's profile based on television
programs viewed by the user rather than based on the history of websites visited by the user and
then use the modified teachings in the combination Hendricks-Herz because this would help shift
some of the burden of categorizing the user according to the category group from the server side
to the user side, thereby improving the speed of delivery of the targeted content to the user.

Claims 13, 15, 16, 17, 18 and 21

The rejection of base claim 12 is incorporated. For features recited in Claims 13, 15, 16,
17, 18 and 21, see rejections and examiner's response to Applicant's arguments in previous
Office actions.

11.   Claims 14 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S.
Patent No. 6,738,978 to Hendricks ("Hendricks978") in view of U.S. Patent No. 7,003,792 to
Yuen, as applied to base claim 12, and further in view of U.S. Patent No. 6,088,722 to Herz.

Claim 14

The combination Hendricks978-Yuen does not specifically disclose the feature recited in
Claim 14.

However, in an analogous art, Herz discloses *wherein said demographic cluster
knowledge base acquirer is based on a hidden Markov model* (48:67 and 29:1-4).

It would have been obvious to a person having ordinary skill in the art at the time the
invention was made to use Herz in the combination Hendricks978-Yuen for the purpose of
anticipating user requests so data can be downloaded in advance (Herz; 48:67 and 49:1-4).

Claim 19

The combination Hendricks978-Yuen does not specifically disclose the feature recited in
Claim 19.

However, in an analogous art, Herz teaches *wherein the transition matrix is a two-
dimensional matrix with transitions from television channelsin normal form to television
channels in temporal form* (see at least 48:67; 49:1-5 teaching a transition matrix and by
definition a matrix has rows and columns thus at least two dimensions; the matrix is temporal
because as information is updated the matrix would change).

It would have been obvious to a person having ordinary skill in the art at the time the
invention was made to use the Markov model as taught in Herz in the combination
Hendricks978-Yuen for the purpose of anticipating user requests so data can be downloaded in
advance (see at least 48:67 - 49:4).

12.   Claim 20 is are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent
No. 6,738,978 to Hendricks ("Hendricks978") in view of U.S. Patent No. 7,003,792 to Yuen, as
applied to base claim 12, further in view of U.S. Patent No. 6,088,722 to Herz, as applied to

Claim 14 and further in view of A tutorial on Hidden Markov Models and Selected Applications in Speech Recognition by Rabiner et al. ("Rabiner").

Claim 20

The combination Hendricks978-Yuen further discloses:

   wherein said demographic cluster knowledge base acquirer is configured to parameterize the user's behavior with a double pseudo hidden process (Hendricks978; see at least columns 18-23 wherein multiple sub matrixes are being analyzed from the database and this analysis is done at the network controller, so it is hidden from the subscriber), *and to define a low-level statistical state machine with the active behavioral cluster* (Hendricks978; see at least 36:18-23) *and top-level statistical state machine with active behavioral clusters and an interaction between the active behavioral clusters* (Hendricks978; 36:24-28 teaching combining the matrixes).

The combination Hendricks978-Yuen does not specifically disclose that the double pseudo process is *a Markov process*.

However, in an analogous art, Herz teaches a Markov process (see at least 48:67 – 49:7).

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to use the Markov model in the combination Hendricks978-Yuen of the purpose of anticipating user requests so data can be downloaded in advance (48:67 – 49:4).

The combination Hendricks978-Yuen-Herz does not specifically disclose that the Markov process is *random*.

However, in an analogous art, Rabiner teaches random processing (p. 257, second column paragraph starting with "[t]hese are ..." which teaches statistical modeling with random processing in relation to hidden Markov processes).

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to use Rabiner teachings in the combination Hendricks978-Yuen-Herz for the purpose of using a random sample of the data to avoid excessive processing and calculations.

Conclusion

13.   The prior art made of record and not relied upon is considered pertinent to Applicant's disclosure.

14.   Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hoang-Vu "Antony" Nguyen-Ba whose telephone number is (571) 272-3701. The examiner can normally be reached on Monday-Friday from 9:00 am to 5:30 pm.

If attempts to reach the examiner are unsuccessful, the examiner's supervisor, John Miller can be reached at (571) 272-7353.

The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Any inquiry of a general nature or relating to the status of this application should be directed to the TC 2600 Group receptionist (571) 272-2600.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at (866) 217-9197 (toll-free).

/Hoang-Vu Antony Nguyen-Ba/
Primary Examiner, Art Unit 2623
September 29, 2008